

Amendments to the Claims

1-34. (Cancelled)

35. (New) A method of operating a Synchronous Optical Network (SONET) system, the method comprising:

receiving a first SONET signal into a first adaptor assembly, wherein the first SONET signal has section overhead information, line overhead information, and a payload;

in the first adaptor assembly, terminating the section overhead information and the line overhead information in the first SONET signal;

transferring the terminated section overhead information, the terminated line overhead information, and the payload from the first adaptor assembly;

receiving the terminated section overhead information, the terminated line overhead information, and the payload into a second adaptor assembly;

in the second adaptor assembly, generating a second SONET signal having the terminated section overhead information, the terminated line overhead information, and the payload; and

transferring the second SONET signal from the second adaptor assembly.

36. (New) The method of claim 35 wherein transferring the terminated section overhead information and the terminated line overhead information from the first adaptor assembly comprises adding the terminated section overhead information and the terminated line overhead information to unused space in a transport overhead of a third SONET signal.

37. (New) The method of claim 35 wherein receiving the first SONET signal comprises receiving the first SONET signal from a first carrier network into a second carrier network, and wherein transferring the second SONET signal comprises transferring the second SONET signal from the second carrier network to the first carrier network.

38. (New) A Synchronous Optical Network (SONET) system comprising:

a first adaptor assembly configured to receive a first SONET signal having section overhead information, line overhead information, and a payload, to terminate the section overhead information and the line overhead information in the first SONET signal, and to transfer the terminated section overhead information, the terminated line overhead information, and the payload; and

a second adaptor assembly configured to receive the terminated section overhead information, the terminated line overhead information, and the payload, to generate a second SONET signal having the terminated section overhead information, the terminated line overhead information, and the payload, and to transfer the second SONET signal.

39. (New) The SONET system of claim 38 wherein the first adapter assembly is configured to add the terminated section overhead information and the terminated line overhead information to unused space in a transport overhead of a third SONET signal.

40. (New) The SONET system of claim 38 wherein the first adapter assembly receives the first SONET signal from a first carrier network into a second carrier network, and wherein the second adapter assembly transfers the second SONET signal from the second carrier network to the first carrier network.

41. (New) A method of operating a Synchronous Digital Hierarchy (SDH) system, the method comprising:

receiving a first SDH signal into a first adaptor assembly, wherein the first SDH signal has regenerator section overhead information, multiplexer section overhead information, and a payload;

in the first adaptor assembly, terminating the regenerator section overhead information and the multiplexer section overhead information in the first SDH signal;

transferring the terminated regenerator section overhead information, the terminated multiplexer section overhead information, and the payload from the first adaptor assembly;

receiving the terminated regenerator section overhead information, the terminated multiplexer section overhead information, and the payload into a second adaptor assembly;

in the second adaptor assembly, generating a second SDH signal having the terminated regenerator section overhead information, the terminated multiplexer section overhead information, and the payload; and

transferring the second SDH signal from the second adaptor assembly.

42. (New) The method of claim 41 wherein transferring the terminated regenerator section overhead information and the terminated multiplexer section overhead information comprises adding the terminated regenerator section overhead information and the terminated multiplexer section overhead information to unused space in a transport overhead of a third SDH signal.

43. (New) The method of claim 41 wherein receiving the first SDH signal comprises receiving the first SDH signal from a first carrier network into a second carrier network, and wherein transferring the second SDH signal comprises transferring the second SDH signal from the second carrier network to the first carrier network.

44. (New) A Synchronous Optical Network (SDH) system comprising:

a first adaptor assembly configured to receive a first SDH signal having regenerator section overhead information, multiplexer section overhead information, and a payload, to terminate the regenerator section overhead information and the multiplexer section overhead information in the first SDH signal, and to transfer the terminated regenerator section overhead information, the terminated multiplexer section overhead information, and the payload; and

C1 a second adaptor assembly configured to receive the terminated regenerator section overhead information, the terminated multiplexer section overhead information, and the payload, to generate a second SDH signal having the terminated regenerator section overhead information, the terminated multiplexer section overhead information, and the payload, and to transfer the second SDH signal.

45. (New) The SDH system of claim 44 wherein the first adapter assembly is configured to add the terminated regenerator section overhead information and the terminated multiplexer section overhead information to unused space in a transport overhead of a third SDH signal.

46. (New) The SDH system of claim 44 wherein the first adapter assembly receives the first SDH signal from a first carrier network into a second carrier network, and wherein the second adapter assembly transfers the second SDH signal from the second carrier network to the first carrier network.